AMENDMENTS TO THE CLAIMS

1.   (Currently amended) A method of determining received signal quality for a received signal in an inter-symbol interference canceling receiver comprising:

generating an estimate of inter-symbol interference in the received signal;

scaling the estimated inter-symbol interference by a cancellation metric comprising a scalar value ~~corresponding to~~ representing characterized or measured inter-symbol interference cancellation performance of the receiver; and

estimating the received signal quality based on the scaled estimate of inter-symbol interference.

2.   (Original) The method of claim 1, wherein estimating the received signal quality based on the scaled estimate of inter-symbol interference comprises estimating a signal-to-interference ratio of the received signal.

3.   (Original) The method of claim 2, further comprising periodically estimating the signal-to-interference ratio of the received signal and periodically transmitting corresponding channel quality information to a supporting wireless communication network.

4.   (Original) The method of claim 2, further comprising periodically estimating the signal-to-interference ratio of the received signal, generating corresponding link power control commands, and transmitting the link power control commands to a supporting wireless communication network.

5.   (Original) The method of claim 1, further comprising storing the cancellation metric in a memory of the receiver as a pre-configured value.

6.   (Original) The method of claim 5, further comprising determining the pre-configured

value of the cancellation metric by characterizing inter-symbol interference cancellation

performance of the receiver, or of a same type of receiver.

7.   (Original) The method of claim 1, further comprising maintaining the cancellation metric

as a dynamically updated value based on inter-symbol interference cancellation performance of

the receiver as measured during operation.

8.   (Original) The method of claim 1, wherein the received signal comprises a WCDMA

Dedicated Physical Channel (DPCH) signal, and wherein determining received signal quality for

a received signal in an inter-symbol interference canceling receiver comprises, for each timeslot

of the DPCH signal, estimating the received signal quality based on the scaled estimate of inter-

symbol interference, generating a corresponding transmit power control command, and

transmitting the power control command to a supporting WCDMA network.

9.   (Original) The method of claim 1, wherein generating an estimate of inter-symbol

interference in the received signal comprises generating an expected value of the inter-symbol

interference in the received signal.

10.   (Currently amended) The method of claim 9, wherein scaling the estimated inter-symbol

interference by a cancellation metric comprising a scalar value ~~corresponding to~~ representing

characterized or measured inter-symbol interference cancellation performance of the receiver

comprises multiplying the expected value of the inter-symbol interference by the cancellation

metric, or by a ratio of the cancellation metric.

11.   (Original) The method of claim 1, wherein estimating the received signal quality based on the scaled estimate of inter-symbol interference comprises estimating a received signal power for the received signal, estimating an additional impairment component of the received signal corresponding to other than inter-symbol interference, and calculating the signal-to-interference ratio of the received signal as a ratio of the received signal power over a sum of the scaled estimate of inter-symbol interference and the additional impairment component.

12.   (Original) The method of claim 11, wherein the received signal power, the scaled estimate of inter-symbol interference, and the additional impairment component, are estimated using combined values corresponding to RAKE fingers in the receiver that are associated with the received signal.

13.   (Original) The method of claim 11, wherein estimating a received signal power for the received signal comprises calculating the received signal power based on the magnitudes of net channel responses and signal amplitudes for propagation paths associated with the received signal.

14.   (Original) The method of claim 11, wherein estimating an additional impairment component of the received signal corresponding to other than inter-symbol interference comprises estimating an interference variance based on received pilot channel symbols.

15.   (Currently amended) The method of claim 1, further comprising storing a cancellation metric for each of one or more supporting network transmitters, and wherein scaling the estimated inter-symbol interference by a cancellation metric comprising a scalar value corresponding to representing characterized or measured inter-symbol interference cancellation

performance of the receiver comprises scaling an estimated inter-symbol interference estimate for each of the one or more network transmitters by the corresponding cancellation metric.

16.   (Original) The method of claim 1, further comprising determining the cancellation metric based on generating a combined estimate for inter-symbol interference and other impairment in the received signal and removing a noise variance estimate corresponding to the other impairment from the combined estimate to obtain the cancellation metric.

17.   (Currently amended) A processing circuit configured for use in an inter-symbol interference canceling receiver, the processing circuit comprising:

an interference estimation circuit configured to generate an estimate of inter-symbol interference in the received signal;

a scaling circuit included in, or associated with, the interference estimation circuit and configured to scale the estimated inter-symbol interference by a cancellation metric comprising a scalar value ~~corresponding to~~ <u>representing characterized or measured</u> inter-symbol interference cancellation performance of the receiver; and

a signal quality estimation circuit configured to estimate the received signal quality based on the scaled estimate of inter-symbol interference.

18.   (Original) The processing circuit of claim 17, wherein the processing circuit is configured to estimate the received signal quality based on the scaled estimate of inter-symbol interference by estimating a signal-to-interference ratio of the received signal.

19.   (Original) The processing circuit of claim 18, wherein the processing circuit is configured to periodically estimate the signal-to-interference ratio of the received signal for periodic transmission of corresponding channel quality information to a supporting wireless communication network.

20.   (Original) The processing circuit of claim 18, wherein the processing circuit is configured to periodically estimate the signal-to-interference ratio of the received signal and generate corresponding link power control commands for transmission to a supporting wireless communication network.

21.   (Original) The processing circuit of claim 17, wherein the processing circuit is configured to receive a pre-configured value from a memory in the receiver as the cancellation metric.

22.   (Original) The processing circuit of claim 17, wherein the processing circuit is configured to maintain the cancellation metric as a dynamically updated value based on inter-symbol interference cancellation performance of the receiver as measured during operation.

23.   (Original) The processing circuit of claim 17, wherein the received signal comprises a WCDMA Dedicated Physical Channel (DPCH) signal, and wherein the processing circuit is configured to determine received signal quality for the DPCH signal by, for each timeslot of the DPCH signal, estimating the received signal quality based on the scaled estimate of inter-symbol interference and generating a corresponding transmit power control command for transmission to a supporting WCDMA network.

24.   (Original) The processing circuit of claim 17, wherein the processing circuit is configured to generate an estimate of inter-symbol interference in the received signal by generating an expected value of the inter-symbol interference in the received signal.

25.   (Currently amended) The processing circuit of claim 24, wherein the processing circuit is configured to scale the estimated inter-symbol interference by a cancellation metric comprising a scalar value ~~corresponding to~~ representing characterized or measured inter-symbol interference cancellation performance of the receiver by multiplying the expected value of the inter-symbol interference by the cancellation metric, or by a ratio of the cancellation metric.

26.   (Original) The processing circuit of claim 17, wherein the processing circuit is configured to estimate the received signal quality based on the scaled estimate of inter-symbol interference by estimating a received signal power for the received signal, estimating an additional impairment component of the received signal corresponding to other than inter-symbol interference, and calculating the signal-to-interference ratio of the received signal as a ratio of the received signal power over a sum of the scaled estimate of inter-symbol interference and the additional impairment component.

27.   (Original) The processing circuit of claim 26, wherein the processing circuit is configured to estimate the received signal power, the scaled estimate of inter-symbol interference, and the additional impairment component, based on combined values corresponding to RAKE fingers in the receiver that are associated with the received signal.

28.   (Original) The processing circuit of claim 17, wherein the processing circuit comprises at least a portion of an integrated circuit device that is arranged and configured for baseband signal processing in a wireless communication receiver.

29.   (Original) The processing circuit of claim 17, wherein the processing circuit is configured to use a cancellation metric for each of one or more supporting network transmitters, and wherein the scaling circuit is configured to scale an inter-symbol interference estimate for each transmitter using the corresponding cancellation metric.

30.   (Original) The processing circuit of claim 29, wherein the one or more supporting network transmitters are associated with different network cells, and wherein the processing circuit estimates and scales inter-symbol interference on a per cell basis.

31.   (Currently amended) A wireless communication device for use in a wireless

communication network comprising:

      a receiver configured to receive signals from the network;

      a transmitter configured to transmit signals to the network;

      one or more control circuits configured to control operation of the receiver and

          transmitter; and

      said receiver comprising one or processing circuits comprising:

          an interference estimation circuit configured to generate an estimate of inter-

              symbol interference in the received signal;

          a scaling circuit included in, or associated with, the interference estimation circuit

              and configured to scale the estimated inter-symbol interference by a

              cancellation metric comprising a scalar value ~~corresponding to~~

              <u>representing characterized or measured</u> inter-symbol interference

              cancellation performance of the receiver; and

          a signal quality estimation circuit configured to estimate the received signal

              quality based on the scaled estimate of inter-symbol interference.

32.   (Original) The device of claim 31, wherein the processing circuit is configured to estimate

the received signal quality based on the scaled estimate of inter-symbol interference by

estimating a signal-to-interference ratio of the received signal.

33.   (Original) The device of claim 32, wherein the processing circuit is configured to

periodically estimate the signal-to-interference ratio of the received signal and wherein the

device is configured to periodically transmit corresponding channel quality information to a

supporting wireless communication network.

34.   (Original) The device of claim 32, wherein the processing circuit is configured to periodically estimate the signal-to-interference ratio of the received signal and generate corresponding link power control commands, and wherein the device is configured to transmit the link power control commands to a supporting wireless communication network.

35.   (Original) The device of claim 31, wherein the processing circuit is configured to receive a pre-configured value from a memory in the device as the cancellation metric.

36.   (Original) The device of claim 31, wherein the processing circuit is configured to maintain the cancellation metric as a dynamically updated value based on inter-symbol interference cancellation performance of the receiver as measured during operation.

37.   (Original) The device of claim 31, wherein the received signal comprises a WCDMA Dedicated Physical Channel (DPCH) signal, and wherein the processing circuit is configured to determine received signal quality for the DPCH signal by, for each timeslot of the DPCH signal, estimating the received signal quality based on the scaled estimate of inter-symbol interference and generating a corresponding transmit power control command for transmission by the device to a supporting WCDMA network.

38.   (Original) The device of claim 31, wherein the processing circuit is configured to generate an estimate of inter-symbol interference in the received signal by generating an expected value of the inter-symbol interference in the received signal.

39.   (Currently amended) The device of claim 38, wherein the processing circuit is configured to scale the estimated inter-symbol interference by a cancellation metric comprising a scalar

value ~~corresponding to~~ representing characterized or measured inter-symbol interference

cancellation performance of the receiver by multiplying the expected value of the inter-symbol

interference by the cancellation metric, or by a ratio of the cancellation metric.

40.   (Original) The device of claim 31, wherein the processing circuit is configured to estimate

the received signal quality based on the scaled estimate of inter-symbol interference by

estimating a received signal power for the received signal, estimating an additional impairment

component of the received signal corresponding to other than inter-symbol interference, and

calculating the signal-to-interference ratio of the received signal as a ratio of the received signal

power over a sum of the scaled estimate of inter-symbol interference and the additional

impairment component.

41.   (Original) The device of claim 40, wherein the processing circuit is configured to estimate

the received signal power, the scaled estimate of inter-symbol interference, and the additional

impairment component, based on combined values corresponding to RAKE fingers in the

receiver that are associated with the received signal.

42.   (Original) The device of claim 31, wherein the device comprises a mobile terminal

configured for operation in a WCDMA wireless communication network, and wherein the device

is configured to determine the received signal quality via use of the processing circuit for one or

more received WCDMA signal transmitted by the network.

43.   (Original) The device of claim 42, wherein the mobile terminal is configured periodically

to report Channel Quality Information for a High Speed Packet Data Service signal transmitted

by the network based on determining received signal quality for the signal via the processing

circuit.

44.   (Original) The device of claim 42, wherein the mobile terminal is configured periodically

to transmit forward link power control commands to the network based on determining received

signal quality via the processing circuit for one or more WCDMA signals transmitted by the

network.

45.   (Currently amended) A computer readable medium storing a computer program to

determine received signal quality for a received signal in an inter-symbol interference canceling

receiver, the computer program comprising:

> program instructions to generate an estimate of inter-symbol interference in the received
>
> > signal;
>
> program instructions to scale the estimated inter-symbol interference by a cancellation
>
> > metric comprising a scalar value ~~corresponding to~~ <u>representing</u> characterized or
> >
> > <u>measured</u> inter-symbol interference cancellation performance of the receiver;
> >
> > and
>
> program instructions to estimate the received signal quality based on the scaled
>
> > estimate of inter-symbol interference.

46.   (Original) The computer readable medium of claim 45, wherein the program instructions

to estimate the received signal quality based on the scaled estimate of inter-symbol interference

comprise program instructions to estimate a received signal power for the received signal,

estimate an additional impairment component of the received signal corresponding to other than

inter-symbol interference, and calculate the signal-to-interference ratio of the received signal as

a ratio of the received signal power over a sum of the scaled estimate of inter-symbol

interference and the additional impairment component.

47.   (Original) The computer readable medium of claim 46, wherein the received signal

power, the scaled estimate of inter-symbol interference, and the additional impairment

component, are estimated using combined values corresponding to RAKE fingers in the

receiver that are associated with the received signal.